USE AND MAINTENANCE MANUAL

2 in 1 Spindle moulder and spindle sander
Art. 0559

FERVI
PRO SMART EQUIPMENT

TRANSLATION OF THE ORIGINAL INSTRUCTIONS

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PREFACE

Please ensure you have read this manual before operation

TRANSLATION OF THE ORIGINAL INSTRUCTIONS

Reading this instruction manual is required before operating any of the machinery. The guarantee that the machine will function and perform properly is strictly dependent upon the application of all the instructions contained in this manual.

Operator Qualifications

The workers responsible for the use of this machine must have all the necessary information and instruction and should be given adequate training in relation to safety regarding:

a) Conditions of use for the equipment;

b) Foreseeable abnormal situations, pursuant to Article 73 of Legislative Decree 81/08.

We guarantee the Machine complies with the specifications and technical instructions described in the Manual on the date of issuance and listed herein; On the other hand, the machine may also be subject to important technical changes in the future, without the manual being updated.

Therefore, contact FERVI for information about modifications that may have been implemented.

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1 INTRODUCTION

This manual is considered an integral part of the machine it was attached to at the time of purchase.

The manufacturer holds all ownership to material and intellectual property of this manual; any disclosure or copying, even partial, of this publication without prior written consent is forbidden.

This manual is designed to provide the knowledge required for the use and maintenance of the **ToupieArt. 0559** and to provide the operator assigned to the device with a sense of responsibility and knowledge of its possibilities and limitations.

As the machine is entrusted to experienced and skilled operators, the following machine must be perfectly known by the operator if you want it to be used safely and effectively.

Operators must be properly trained and prepared, so make sure that this manual is read and consulted by the staff responsible for commissioning, operation and maintenance of the **Single shaft vertical milling machine (Toupie)**. This is to make all operations the safest and most effective possible for those who carry out these tasks.

Therefore, it is imperative to strictly comply with the requirements in this manual, a necessary condition for safe and satisfactory operation of the machine.

Before starting operation, installation and use of the **Toupie**, authorized staff must therefore:

- read this technical document carefully;
- know which protections and safety devices are available on the machines, their location and how they work.

The buyer is responsible for ensuring that users are properly trained, that they are aware of all the information and instructions in this document and that they are aware of the potential risks of operating the **Toupie**.

The manufacturer waives any and all responsibility for damage to people and/or things caused by non-observance of the instructions in this manual.

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The **Toupie** has been designed and built with mechanical guards and safety devices designed to protect the operator/user from possible injury. It is strictly forbidden to modify or remove guards, safety devices and caution labels. If you do so temporarily (for example, for the purposes of cleaning or repair), make sure that no one can use the machine.

Modifications to the machines carried out by the user must be considered their sole responsibility, therefore the manufacturer declines all responsibility for any damage caused to persons and/or property resulting from maintenance performed by unqualified personnel and in a manner different from the operating procedures shown below.

Graphic representation of safety, operational and risk warnings

The following boxes are designed to attract the attention of the reader / user for the **proper** and **safe** use of the machine:

Pay Attention

This highlights behavioural rules to prevent damage to the machine and/or the occurrence of dangerous situations.

Residual Risks

This highlights the presence of dangers that cause residual risks to which the operator must pay attention in order to avoid injury or damage to property.

1.1 Preface

For safe and easy operation of the Toupie, this manual must be read carefully in order to acquire the necessary knowledge. In other words, durability and performance are strictly dependent on how it is used.

Follow the instructions contained herein, in addition to the general precautions to be observed while working. Even if the operator is already familiar with the Toupie, it is necessary to:

- Acquire full knowledge of the machine.
  Read this manual carefully to understand: operation, safety devices and all necessary precautions. All this is to allow safe use of the machine.
- Wear appropriate clothing for the job.
  The operator must wear appropriate clothing to prevent the occurrence of unforeseen accidents.
- Maintain the machine with care.

Using the Machine

The machine must only be used by qualified personnel trained to use the machine by authorized personnel.

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2 SAFETY WARNINGS

2.1 General safety regulations

Accident

- There is always a risk of injury during milling operations due to accidental contact of body parts with the moving tool, flying debris from the workpiece, tool breakage or ejection of a badly blocked workpiece.
- There is no "intrinsic" means of safety, just as there is no worker who, while careful, can "always" avoid an accident. Therefore, DO NOT underestimate the risks associated with using the machine and concentrate on the work in progress.

Risks related to Using the Machine

DO NOT underestimate the risks associated with using the machine and concentrate on the work in progress.

Risks associated with using the machine

Despite the implementation of all the safety devices for safe use of the machine, it is necessary to take note of all the requirements for the prevention of accidents reported in various parts of this manual.

Risks related to Using the Machine

Every person who is responsible for the use and maintenance of the machine should have first read the instruction manual, particularly the chapter on safety information.

It is recommended that the plant safety manager get written confirmation of the above.

Operator Protection

Before starting any type of work on the machine, the operator must wear appropriate personal protective equipment (PPE) such as goggles, gloves and safety shoes.

1. Read this manual carefully, in order to work safely.
2. Always check the efficiency and integrity of the machine.
3. Keep your working area clean to prevent damage.
4. Do not start the machine in an enclosed or poorly ventilated area, or in the presence of a flammable and/or explosive atmosphere. Do not use the machine in damp and/or wet locations, or those exposed to rain.
5. Beware of electric shocks. Avoid the body from coming into contact with floor surfaces or the ground.
6. Avoid starting accidentally.
7. Make sure that your work environment is forbidden to children, strangers and animals.
8. Before starting the machine, get used to ensuring that no remaining maintenance and service keys are inserted. Keep the workplace tidy.

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9. Do not force the machine. Use tools appropriate to the seriousness of the job.
10. Do not perform tasks on the machine other than those for which it was designed. Only use the machine in the manner in which it was intended, as described in this instruction manual.
11. Always wear eye protection and protective gloves while working. If dust is produced, use the appropriate masks.
12. Wear appropriate clothing. Loose clothing, dangling jewellery, long hair, etc., can get caught in the moving parts, causing irreparable injury.
13. Keep the workplace tidy and free from obstruction; disorder causes accidents.
14. Always connect the suction equipment for sawdust.
15. Do not pull the power cord to detach it from the socket. Keep it away from heat, oil or sharp edges.
16. Always work in safety. Take all precautions to avoid accidental contact with the moving parts.
17. Periodically check the stability of the machine.
18. Maintain the machine with care and clean in its entirety. Keep cutting tools clean and sharp. Follow the instructions for lubricating and changing accessories. Periodically check the condition of the power cables.
19. Replace worn and/or damaged parts, check that the repairs and protection devices work properly before operating. If necessary, have the machine checked by the service support personnel. Use only original spare parts.
20. Check the machine for damaged parts. Before you use the machine after the replacement/repair of parts you need to check that it is working properly. Check the alignment and connection of moving parts, failures, correct assembly.
21. Pay maximum attention to what you are doing and use common sense when you use the machine. Use the machine only when in good physical condition (never when you are tired).
22. The use of accessories or devices other than those recommended in this instruction manual and may pose a risk to the safety of the operator.
23. Repairs may only be carried out by qualified and authorised personnel.
24. Do not use the machine if the protection devices are not in their designated position and correctly adjusted.
25. Do not use blades which are not sharpened because this increases the risk of rejection (return back) of the workpiece.
26. Position the guards and piece guide tables so as to only leave uncovered the portion of the tool actually required.
27. Always use the appropriate piece guide device supplied to push the workpiece. It is safer than using your hands!
28. Do not use the machine to make grooves.
29. The effectiveness of the workpiece anti-rejection device should be checked periodically.
30. Remain balanced whilst working.
31. Work areas must be well lit.
32. Do not move away from the machine until the tools and other moving parts, have completely stopped. For this purpose, only use the stop controls to stop the machine.
33. **Unplug the power cord of the machine from the power outlet when:**
    - the machine is not being operated;
    - it is left unattended;
    - performing maintenance or registration, because the machine does not work properly;
    - the power cable is damaged;
    - replacing the cutting tool;
    - it is being moved or transported;
    - cleaning.

34. It is recommended that users of this publication, for maintenance and repair, have a basic knowledge of the mechanical principles and procedures inherent in repair technique.
35. **The company safety officer is required to make sure that machine operators have read and understood this manual in its entirety.**
36. **The company safety manager is responsible for monitoring the company's risk status according to Legislative Decree no. 81/08 and subsequent modifications and amendments.**

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2.2 2.1 General Electric Power Tool Safety Standards

Changes to the electrical system

- Do not modify the machine's electrical system in any way. Any attempt to do so may impair the operation of the electrical devices causing a malfunction or accident.
- Work on the electrical system of the machine must therefore be carried out only by qualified and authorised personnel.
- If you hear unusual noises, or notice something strange, immediately stop the machine. Then carry out an inspection and, if necessary, perform any repairs as required.

1. Ensure supply voltage complies with the label and technical specifications (230 V / 50 Hz). **Never use any other type of power supply!**
2. The use of a life-saving device on the electric power supply for a nominal trip range of 10 to 30 mA is recommended. For more detailed information, contact a trusted electrician.
3. The mains power outlet should be bipolar grounded (10/16 A, 250 V), extension cables must have sections that are the same or greater than the sections of the power cable of the machine.
4. Make sure that the power cord does not come into contact with hot objects, wet or oiled surfaces, and/or sharp edges.
5. The power cord should be checked regularly and before each use to check for signs of damage or wear. If these are not in good condition, do not use the machine and replace the cable.

2.3 Technical assistance

For any problems or concerns, please do not hesitate to contact the dealer who sold you the machine.

2.4 Other provisions

IT IS FORBIDDEN TO TAMPER WITH SAFETY DEVICES

Check the presence and integrity of protections and the proper functioning of safety devices before starting operation.

If any defect is encountered do not use the Toupie!

It is strictly forbidden to modify or remove guards, safety devices, labels and caution signs.

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3 TECHNICAL SPECIFICATIONS

Description	0692/230V	0692/400V
Height (mm)	1106	
Length (mm)	800	
Depth (mm)	885	
Table (mm)	600 x 400	
Table height (mm)	850	
Rated voltage (V)	230	
Power (W)	1,500	
Frequency (Hz)	50	
Rotation speed (rpm)	1500 - 4000 - 6000	
Suction hole diameter (mm)	100	
Useful height of tool holder shaft (mm)	105	
Vertical tool stroke (mm)	80	
Maximum bore diameter of the table (mm)	144	
Spindle diameter (mm)	30	
Net weight (kg)	98	
Acoustic pressure level at operator's workstation L_{pA} (dB)*	Unloaded Under load	82 90
Acoustic power level L_{wA} (dB)*	Unloaded Under load	95 103

* The measurement of acoustic emissions was performed in agreement with that reported in Appendix B of ISO 7960.

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4 DESCRIPTION OF THE MACHINE

The **SINGLE SHAFT VERTICAL MILLING MACHINE - TOUPIE (Art. 0559)** is a machine designed for milling / shaping wooden planks.

During milling, the wooden plank is placed on the table according to the desired inclination and is fed laterally towards the rotating tool. The machining depth is adjusted by positioning the piece guide tables so as to leave a bigger or smaller portion of the tool according to the cutting depth. The processing height is changed by adjusting the vertical movement of the tool holder spindle.

The machine is designed and built for the processing of wooden planks, curved processing is not envisaged nor is there a section for the processing of glass.

Tools and milling cutters of various types can be mounted onto the spindle for work involving the hollowing, drilling and milling of wood.

Other types of use, or the extension of use beyond that envisaged, does not correspond to the designation attributed by the manufacturer, and therefore the latter cannot accept any responsibility for any damage resulting therefrom.

Intended use and materials

- The machine was designed and manufactured for a specific use, different uses and non-compliance with technical parameters established by the Manufacturer may be hazardous to the operator.
- In particular, with regard to the type of material, DO NOT use the machine for non-wood materials.

The Toupie consists of:

- main frame;
- work table, adjustable guide;
- electric motor and its relative transmission components;
- shaft and tool holder spindle;
- on and off buttons and adjustment devices.

Refer to paragraph 4.1 of this manual to view the different parts of the machine in detail.

The motor operates at constant speed, the rotation speed of the tool can be set at three different positions, changing the position of the belt on the pulleys.

The Toupie must be installed and used on a flat, stable surface of adequate strength.

The Toupie is designed and intended for use in enclosed workplaces (production departments, warehouses, etc.).

The best performance levels can be obtained only if certain conditions are met:

- use within the temperature range from -5 to +40°C;
- relative humidity from 30% to 95%, non-condensing;
- height above sea level max. 1000 m.

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The environment must also be sufficiently illuminated, so as to ensure operation in maximum safety (at least 200 lux is recommended).

SUCTION SYSTEM

The machine must be connected to a dust suction device before each use. The suction device must have an air flow with a minimum speed of 20 m/s for dry shavings and at least 28 m/s for wet shavings. The diameter of the suction hose coupling should be about 10 cm.

The suction hose must be connected to the suction nozzle mounted behind the tool guard.

It is important to respect the environment: dispose of any shavings in compliance with current legislation.

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4.1 Main parts of the machine

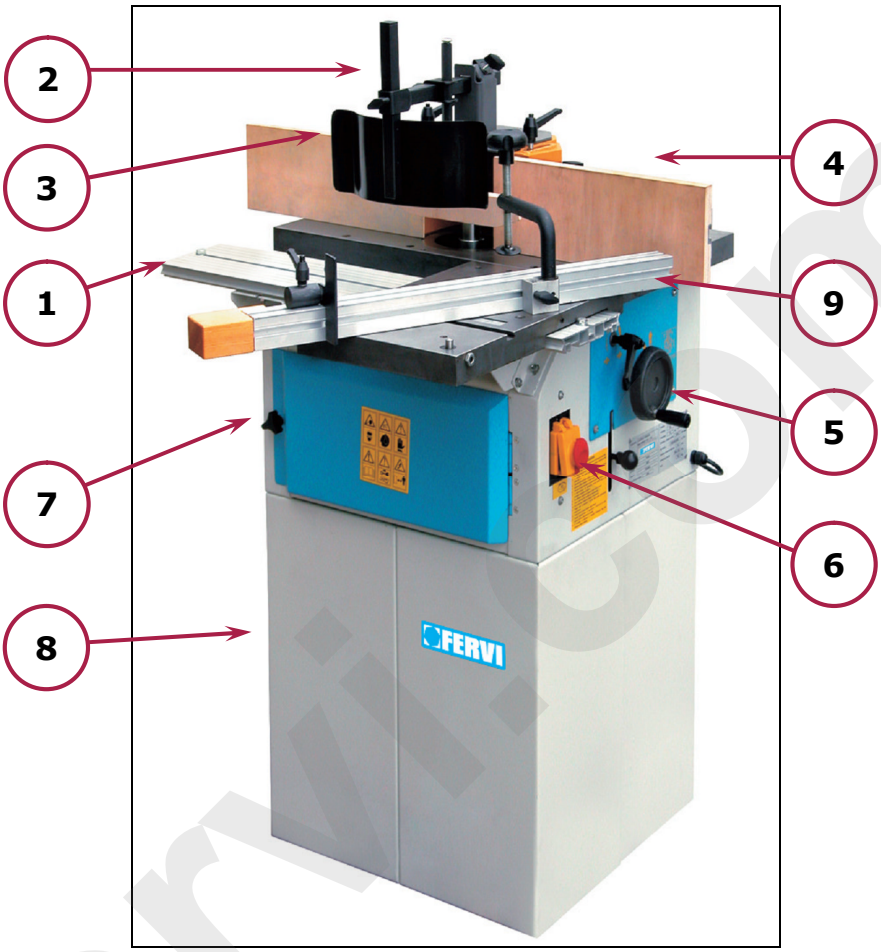

Figure 1 – Spindle moulder Art. 0559.

1	Work table	6	Start / Stop buttons
2	Adjustments of the protection device "1"	7	Motor / pulley compartment
3	Shaft protection guard	8	Base
4	Lateral guide	9	Lateral guide
5	Tool height adjustment		

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10	Work table
11	Adjustments of the protection device "1"
12	Shaft protection guard
13	Lateral guide

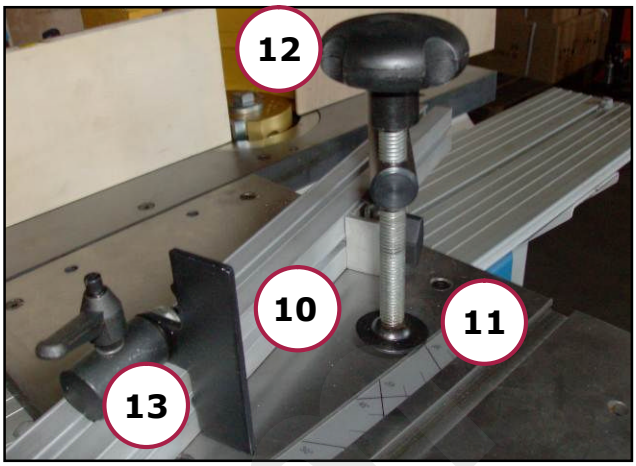

Figure 2 – Sliding table.

14	Shaft protective cover
15	Guide clamp
16	Table clamp
17	Protection guard locking lever
18	Output piece guide

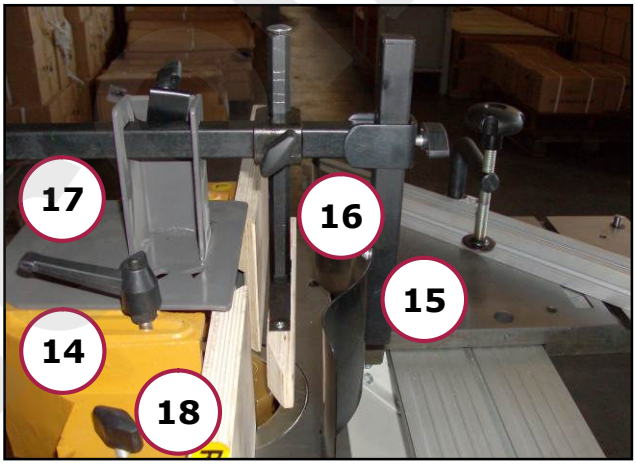

Figure 3 – Tool holder guard.

4.1.1 Optional accessories

The machine can be equipped with an optional accessory for sanding with sandpaper.

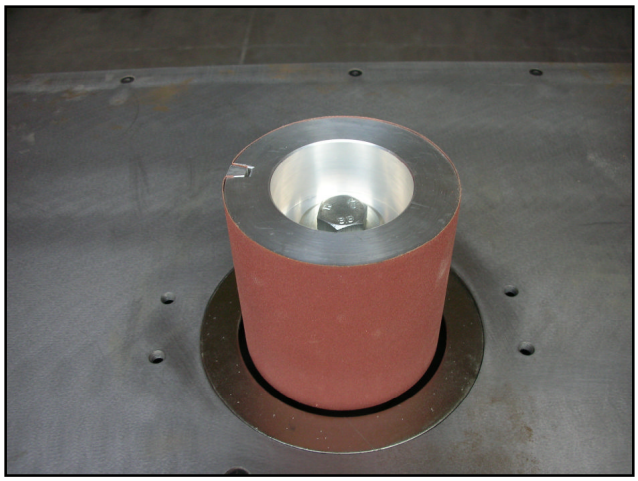

Figure 4 – Sanding roller

4.2 Identification plate

The identification plate shown below is attached to the machine:

Fabbricante	Fervi Srl	Potenza	1500	W
Marca	FERVI PRO SMART EQUIPMENT	Tensione	230	V
		Frequenza	50	Hz
Tipo	Toupie	Diametro x corsa albero	30x105	mm
Articolo	0559	Giri albero	1500/4000/6000	giri / min
Lotto n°		Diametro massimo utensile	160	mm
Anno di costruzione	2013	Dimensione tavola	600 x 400	mm
		Peso	95	kg

Made in PRC

4.3 Pictograms

ATTENTION

1. Please read the instructions before using the machine.
2. The operator must have adequate knowledge and familiarity of the machine before use.
3. The machine must be securely fixed to the floor before use.
4. Wear appropriate clothing and eye protection.
5. Wear ear protection if necessary.
6. Do not use the machine without the safety guards.
7. The maintenance and adjustments must be performed by skilled and experienced personnel.
8. Do not carry out any adjustments while the machine is in motion.
9. Only use the machine when it is running smoothly.
10. Never force the material during processing.
11. When using the machine, the motor should run smoothly without strain.
12. Keep fingers and hands away from blades.
13. When performing any adjustment or replacement of parts, remove the plug from the socket.
14. For further information on safety, please consult the instruction manual.

Figure 5 – Warning pictograms.

Legend:

PLATE IN ITALIAN	PLATE IN ENGLISH
ATTENZIONE!! 1. Leggete attentamente le istruzioni prima di utilizzare la macchina. 2. L'operatore deve avere un'adeguata conoscenza e familiarità della macchina prima dell'uso. 3. La macchina deve essere adeguatamente fissata al pavimento prima dell'uso. 4. Indossate indumenti appropriati e occhiali protettivi. 5. Indossate cuffie antirumore, se necessario. 6. Non usate la macchina senza le protezioni antinfortunistiche. 7. La manutenzione e le regolazioni devono essere eseguite da personale competente ed esperto. 8. Non effettuate regolazioni quando la macchina è in moto. 9. Usate la macchina solo quando gira regolarmente. 10. Non forzate mai il materiale durante le lavorazioni. 11. Quando usate la macchina il motore deve girare regolarmente senza forzare. 12. Tenete le dita e le mani lontano dai coltelli. 13. Quando eseguite lavori di regolazione o sostituzioni di parti, togliete la spina della presa di corrente. 14. Si consiglia di consultare il manuale d'istruzione per altre indicazioni sulla sicurezza.	**ATTENTION!!** 1. Please read the instructions before using the machine. 2. The operator must have adequate knowledge and familiarity of the machine before use. 3. The machine must be securely fixed to the floor before use. 4. Wear appropriate clothing and eye protection. 5. Wear ear protection if necessary. 6. Do not use the machine without the safety guards. 7. The maintenance and adjustments must be performed by skilled and experienced personnel. 8. Do not carry out any adjustments while the machine is in motion. 9. Only use the machine when it is running smoothly. 10. Never force the material during processing. 11. When using the machine, the motor should run smoothly without strain. 12. Keep fingers and hands away from blades. 13. When performing any adjustment or replacement of parts, remove the plug from the socket. 14. For further information on safety, please consult the instruction manual.

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5 DESCRIPTION OF CONTROLS

5.1 Emergency stop and start/stop button

On the edge of the machine in correspondence with the piece inlet table of the workpiece, there are start, stop and emergency stop buttons (**a**), a cap that covers the two buttons (see Figure 6).

To start the machine it is necessary to open the yellow door (**a**) and press the green start switch (**b**).

Conversely, to stop the machine press the red stop switch (**c**).

Once the machine has been started, move the yellow door towards its closed position, without completely shutting it.

In the event of danger, press the emergency stop button (ref. **a**). In this case the door closes completely, leading to the pressing of the stop switch (**c**).

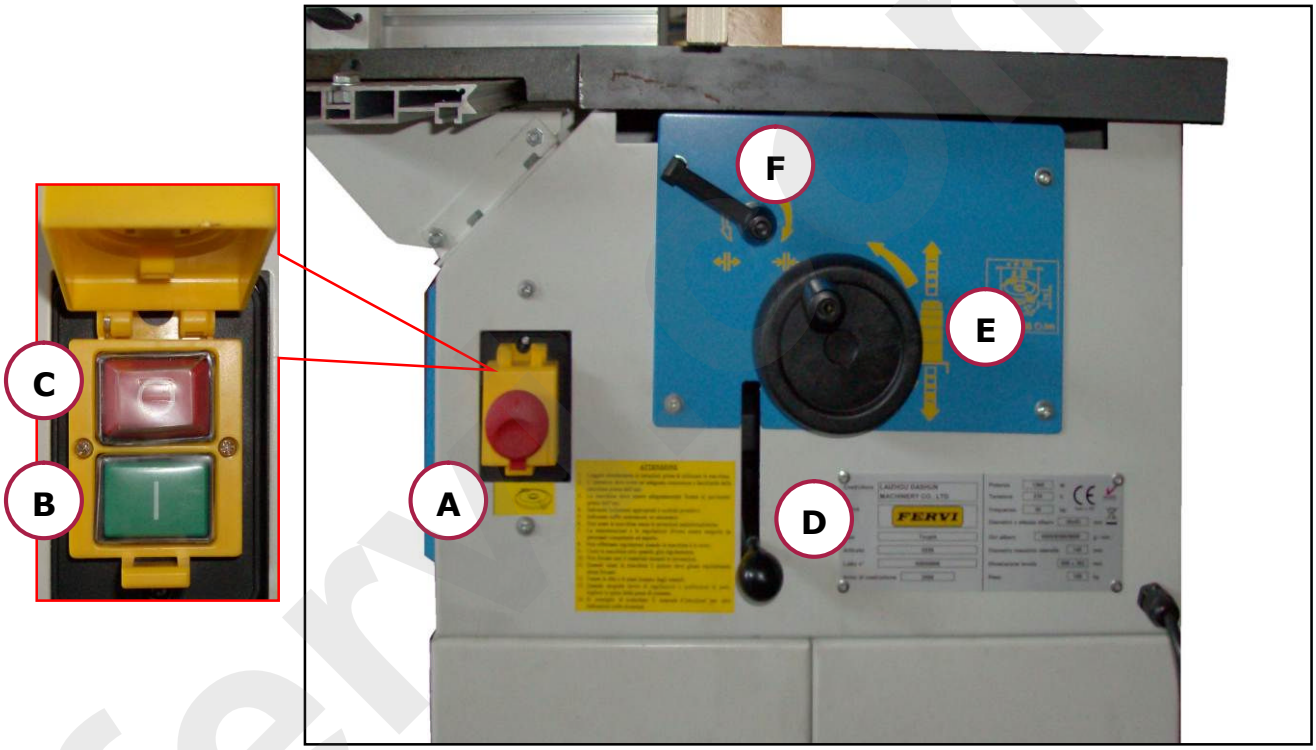

Figure 6 – Spindle moulder commands

Risk of injury

It is absolutely forbidden to by-pass the safety device established by the emergency stop button and its circuitry.

Risk of injury

Before starting the spindle moulder, make sure all the guards are properly positioned and tightly fixed.

When the start switch is pressed, the shaft starts to rotate immediately, and with it the tool holder spindle.

Do not leave unused tool mounted on the spindle.

Risk of injury

It is absolutely forbidden to by-pass the safety device established by the emergency stop button and its circuitry.

Emergency

In the event of danger, press the emergency stop button.

5.2 Shaft locking lever

The lever is positioned to the right of the machine (ref. ***d*** in Figure 6).

The lever is used to lock the rotation of the shaft when replacing the tool on the spindle.

Motor breakdown

Do not start the machine when the shaft has been locked with the locking lever, the motor could operate under strain and burn out.

5.3 Spindle handwheel and lever

The handwheel for vertical positioning and the clamping lever for the spindle are located on the right part of the machine (ref. ***e*** and ***f*** in Figure 6).

Turn the handwheel clockwise to lower the tool, turn the wheel anticlockwise to raise the tool.

Turn the lever to the right (clockwise) to tighten the shaft, turn the lever to the left (anticlockwise) to release the shaft.

Shaft damage

Always remember to release the shaft by means of the lever *f*, before operating the handwheel.

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6 MACHINE SAFETY DEVICES

6.1 Electrical safety devices

In the event of malfunction or breakdown, the **Toupie** is equipped with power cable and plug with **grounding conductor**, which provides a path of least resistance for electric current and reduces the risk of electric shock.

The plug must be plugged into an appropriate socket, grounded in accordance with current regulations, the line must be fitted with a suitable system for the automatic disconnection of the power supply, coordinated with the electrical system of the machine. The power cord should be at least 1.5 mm thick with reinforced insulation (e.g. HO7), and at least 2.5 mm thick if it has a length exceeding 10 m. Extension cords must be of a section equal to or greater than that envisaged for the power cord of the machine.

Electric shock

It is absolutely forbidden to by-pass the safety device established by the emergency stop button and its circuitry.

Check with a qualified electrician if you don't understand the grounding instructions or if you have any doubts about grounding the machine.

The machine is also equipped with a micro-safety switch connected to the pulley compartment door, which stops the power supply when the door is opened.

6.2 Safety devices against "mechanical" risks

PROTECTIVE CASING OF THE MOTION TRANSMISSION COMPONENTS

The protective casing prevents the operator's body parts, particularly hands and/or fingers, from coming into direct contact with the transmission components of the machine, when it is activated.

Casing Position Check

Each time the Spindle moulder is used, check that the protective casing is perfectly positioned and securely fixed.

Access to the speed change pulleys, is achieved via an interlocked door, the machine stops as soon as it is opened.

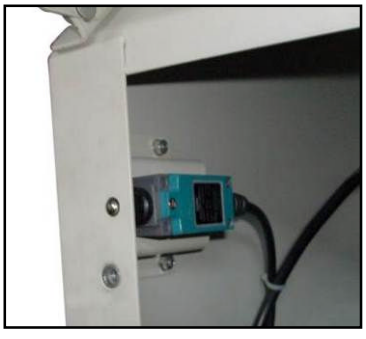

Figure 7 – Pulley compartment

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Accidents

Always turn off the machine and wait until the spindle has stopped before opening the pulley compartment access door.

Tool holder shaft guards

The spindle guard is composed of removable equipment, equipped with adjustable parts and fixed parts. It should be installed on the machine and adjusted according to the size of the tool and the workpiece.

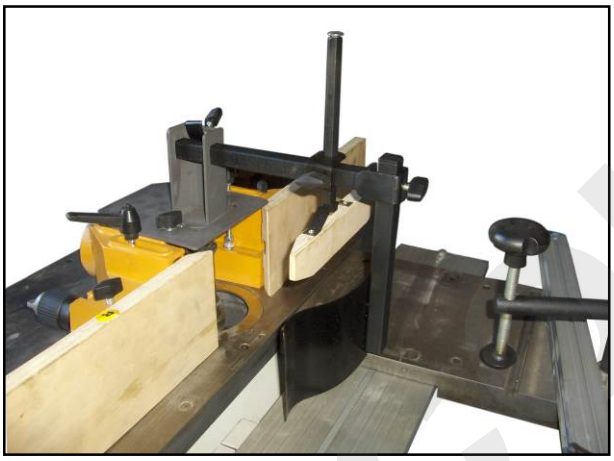

Figure 8 – Tool guard.

These guards prevent splinters or fragments of pieces that may come loose, from being thrown into the operator's face, but above all are to prevent the the operator from coming into direct contact with the rotating cutting tool.

The guard is equipped with fixing and adjustment knobs, to better adapt to the dimensions of the workpiece.

Repair Control

Each time the Spindle moulder Art. 0559 is used, check that the protective tool guards are perfectly positioned and securely fixed.

Cutting of hands and/or fingers

IT IS STRICTLY FORBIDDEN to use the machine without guards and/or put your hands near the tool. Use the appropriate piece guide device supplied to push the workpiece.

"Piece guide" lever

The piece guide lever guides the workpiece to be milled towards the tool, so as to avoid the hazard of hands being too close to the blade in motion especially when the workpieces are small.

Emergency stop button

The Toupie is equipped with an emergency stop button located above the Start / Stop buttons (see Figure 6).

In the event of danger it guarantees a rapid shutdown of the machine and its moving parts.

Emergency stop
Activate the emergency stop button in the event of danger and/or breakdown of the machine.

6.3 Use of PPE

Even if the machine is equipped with safety devices, there are dangers of injury related to the execution of the work.

It is a good idea for the operator before starting to work, to put on Personal Protective Equipment:

- wear glasses or a protective mask to prevent chips, dust or other parts from damaging your eyes or face;
- to protect your hands from splinters on the workpiece wear gloves;
- the Toupie has a noise level of 80 dB, therefore the operator must wear ear protection devices such as earmuffs or earplugs;
- use suitable clothing at work, close-fitting and free of dangling parts.

Use of PPE.
ALWAYS use appropriate personal protective equipment (PPE), such as: • Gloves, • Goggles or face shields; • Ear muffs or ear plugs; • Overalls or aprons; • Safety shoes.

Figure 9 - Personal Protective Equipment.

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7 MISUSE AND CONTRAINDICATIONS

The following actions, which obviously cannot cover the entire range of possible "misuse" of the machine are **strictly forbidden.**

THE FOLLOWING IS STRICTLY PROHIBITED!

- To use the machine for working with non-wood materials;
- To hold the workpiece by hand;
- To use the machine without protective cover or with the cover open;
- To push the piece by hand, without the aid of the piece pusher device;
- To use the machine for purposes other than those for which it was designed;
- To exceed the working capacity stated by the manufacturer.
- To leave the machine unattended with the plug inserted.
- To allow untrained staff to use the machine;
- To operate this machine if you are not psychophysically fit;
- To use the machine without due attention;
- To use the machine without the use of appropriate personal protective equipment, such as safety shoes and gloves, goggles or shields, ear muffs, etc.;
- To use the machine in unforeseen environmental conditions (weather, high magnetic fields, etc.);
- To use the machine without connecting a suitable dust suction system;
- To use the machine in potentially explosive atmospheres;
- To use the machine in inadequate light;
- To let the machine come into contact with foodstuffs;
- To tamper with equipment and/or safety devices;
- To tamper with the electrical circuit.

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8 TRANSPORT AND LIFTING

The weight of the **Toupie** is 100 kg, therefore it can only be lifted and transported using equipment suitable for the task.

The optimum solution for handling is to use a pallet truck or a forklift truck with sufficient capacity.

To carry out the lifting of the Toupie steel ropes must be used with a diameter greater than 5 mm.

To do so, follow the instructions below:

- disconnect the power plug from the outlet and pick up the cable, making sure that will not be damaged during transport;
- secure all the parts of the Toupie in order to prevent unexpected movement of moving parts;
- after verifying that the equipment is properly secured, carefully begin lifting.

Machine transport

- All transport operations must ALWAYS be carried out when the machine is stopped and no metal pieces are on the machine table.
- ALWAYS disconnect the power plug.

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9 ASSEMBLY AND COMMISSIONING

9.1 Machine delivery and unpacking

The **Toupie** is supplied partially disassembled.

The machine is packed (fixed securely with pins) on a wooden pallet.

Before disposing of packaging, check that no parts of the machine, including the user manual or other documentation, are going to be thrown away.

How to remove packaging:

- remove the metal seals;
- remove the devices that secure the machine to the packaging.

Also, make sure that at the time of unpacking, the machine is in perfect condition.

The manufacturer is not liable for any defects or missing parts five days after delivery.

Standard packaging

- Packaging materials (plastic bags, cardboard, etc.). must not be left within reach of children as they are a source of potential danger.
- Respect the environment! Dispose of the packaging in accordance with current legislation.

9.2 Assembling the machine

1. Join together the 4 panels that constitute the base.

Ref.	Code	Description	Quantity
1	GB5783-86	Bolt M6 x 16	4
2	GB97.1-86	Washer 6	4
3	GB6170-86	M6 hex nut	4
4	K429-28	Panel	4
5	M0613	Foot screw	4
6	GB6170-86	M6 hex nut	8
7	GB97.1-86	Washer 6	8
8	GB5783-86	Bolt M6 x 16	8

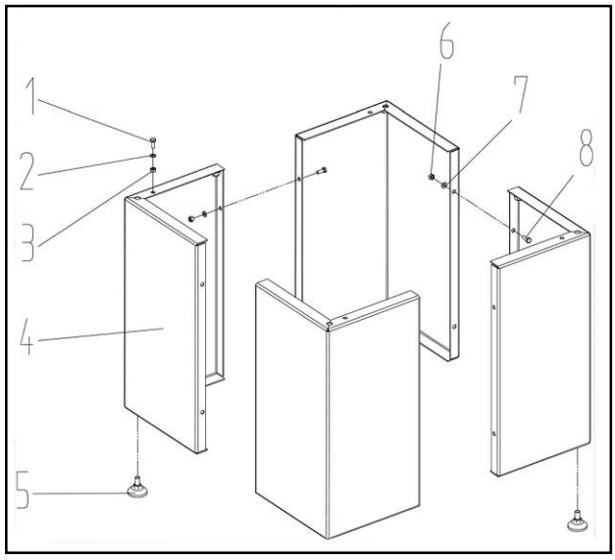

Figure 10 – Base assembly

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2. Screw the adjustable feet at the four corners of the base.
3. Tighten the bolts so as to provide adequate stability to the base.
4. Support the top of the machine by fixing with bolts 1-2-3 at the base. To do this, access the pulley compartment via the door located on the left side.

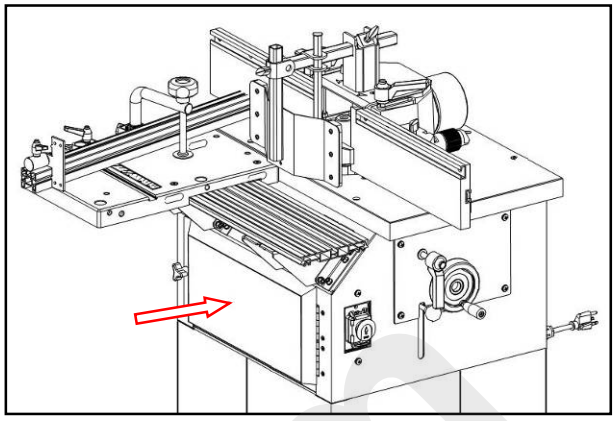

Figure 11 - Assembling the upper part.

Lifting

- The upper part of the machine, complete with table, transmission components and electrical equipment has a mass of about 75 kg, use suitable lifting means to position it on the base.

The spindle guard is already assembled, so simply position it on the machine.

9.3 Positioning and installation of the machine

Loss of stability

Mount the Toupie on a surface that is solid and strong to avoid it falling over and so that it does not cause vibrations.

First, identify an area where there would be sufficient space around the machine to allow work to be carried out easily and in safety. To do this it is a good idea to consider the dimensions of the work pieces and their relative overall size.

How to install the Toupie:

- thoroughly clean the area allocated to accommodate the Toupie.
- carefully rest the machine on the ground, avoiding overturning it.
- placed rubber shims under the base to absorb vibration during use and to achieve the levelling of the machine.
- secure the machine to the floor by bolts, inserted through the holes present on the base of the machine itself.

Moving the machine

During the movement of the Toupie, pay attention to bumps and jolts that can damage parts of the machine or its adjustment.

The parts of the machine that are not painted are protected by a film applied by the manufacturer. There is no need to remove it before using the machine. In the event you want to remove it, use a cloth dampened with alcohol, wipe and clean the surfaces thoroughly. Then apply an agent that facilitates the sliding of the workpiece on the surface.

9.4 Suction system coupling

For correct use of the machine, the dust suction system should have a capacity of:

- 570 m^3/hour and a minimum air velocity of 20 m/s for dry dust;
- 790 m^3/hour and a minimum air velocity of 28 m/s for wet dust.

The suction system must always be activated when using the machine.

The hose to be connected to the machine must have open diameter of 100 mm and must be connected to the duct on the rear part of the tool guard.

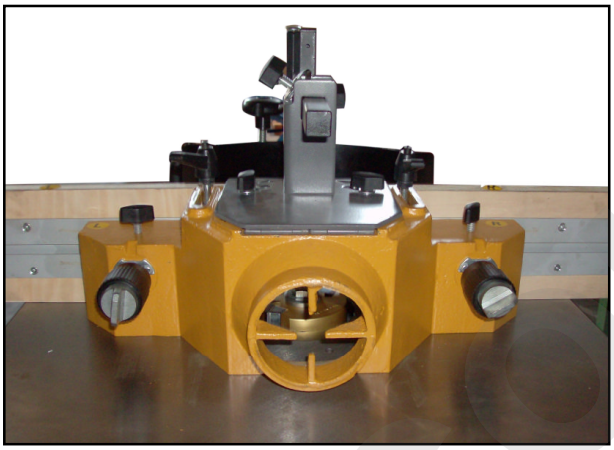

Figure 12 – Suction system duct.

9.5 Electric wiring

Voltage

Before connecting the machine to the mains, check that the voltage corresponds to that provided by the manufacturer.

The power cord used should be at least 1.5 mm thick with reinforced insulation (e.g. HO7), and at least 2.5 mm thick if it has a length exceeding 10 m. Extension cords must be of a section equal to or greater than that envisaged for the power cord of the machine.

Single-phase connection (230 V)

This connection must be made using a cable with three (3) conductors and a standard 16 A plug (two poles + ground pole). Two cables are used for the power supply (L1, L2) and the third (green/yellow) must be connected to the ground terminal.

Operation at T below 10°C

Before using the machine, let the motor idle to allow it to warm up.

Tool maintenance

Before replacing the tool or performing any maintenance and/or repair of the machine, disconnect the power cord from the wall outlet.

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Direction of rotation of the tool

The Toupie is dangerous if the cutterhead rotates in the opposite direction to that intended by the manufacturer. Check the direction of rotation by starting the machine for a short time.

Electrical devices

The machine is equipped with a brake on the motor, which is able to stop the machine in the stipulated time. In any case, this brake only works when the machine is off, pressing the stop switch or the emergency shutdown switches.

When the brake is not working properly, it is forbidden to use the machine!

The power switch must not be operated until the machine has been connected to the power supply.

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10 OPERATION

10.1 Instructions for Use

Operating the machine

The Toupie must be used exclusively to work on wooden planks.

Risk of injury

Before using the machine:

- Make sure it is securely fixed;
- Check that all guards are correctly positioned and fastened;

Wear appropriate personal protective equipment (PPE) such as gloves, goggles, overalls or aprons and safety shoes.

Check the rotation speed of the shaft before starting the machine by observing the position of the belt through the window on the door of the pulley compartment.

Figure 13 – Pulley compartment window

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10.2 Straight milling

The Toupie Art. 0559 is a milling machine that can only be used for straight processing, curved processing is not envisaged nor is the machine equipped for the processing of glass.

1. Lock the rotation of the shaft by means of the lever ref. d in Figure 14.

Figure 14 – Rotation lock.

2. Remove the guard by unscrewing the fastening levers.

Figure 15 - Guard fastening lever.

3. Position the hole reduction ring, which is most suitable for the tool to be installed.
4. Position the tool and tighten the M14 bolt that holds it in place.

Figure 16 – Fixing the tool

5. Release the lever that holds the tool holder shaft in place.

Shaft lock

Always remember to unlock the tool holder shaft before starting the machine.

6. **Unlock the vertical movement of the tool, turning the lever, ref.** *f* **in**: Figure 17 to the left.
7. **Adjust the height of the tool according to the machining operation, by means of the handwheel, ref.** *e* **in**: Figure 17. Turn it clockwise to raise the shaft, turn it anticlockwise to lower the shaft. For every full turn of the handwheel a vertical displacement of 2 mm is achieved.

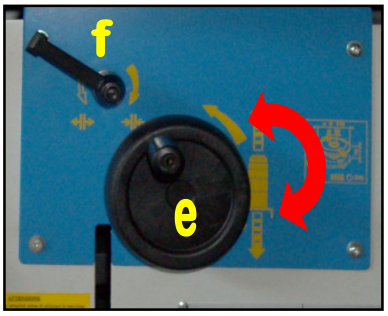

Figure 17 – Vertical adjustment.

8. After adjusting the vertical position re-tighten the lever ***f***, to prevent accidental movement during processing.
9. Start the rotation of the tool using the green Start button.

Rotation of the tool

Before starting work, check that the tool is mounted correctly and that the direction of rotation coincides with the information on the machine and the tool itself.

Operating the machine with reversed rotation may cause damage to the machine and the projection of parts of the tool or the workpiece.

10. After processing, turn off the machine by pressing the red stop button.

10.2.1 Adjusting the guards

Position the guard on the machine, and then adjust the various parts as follows:

1. Move the whole unit so that the cavity is as close as possible to the hole of the tool, then tighten the locking levers.

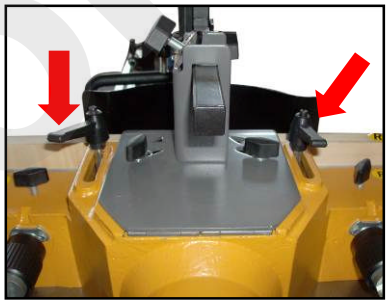

Figure 18 – Locking the unit

2. Position the piece guide tables as close as possible to the tool, so as to leave uncovered only the portion affected by the processing. Use the screw on top of the guard and the knob on the back (one for each side) to adjust and lock the tables.

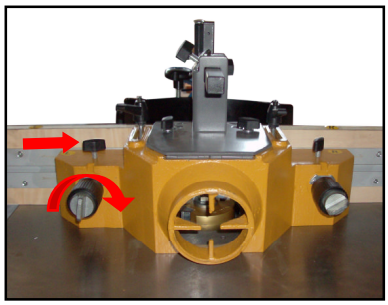

Figure 19 – Adjusting the piece guide axis.

3. Position the workpiece on the movable table, adjust the angle of processing via the rod and the graduated scale, and then tighten the screw to hold the axis in position.

Figure 20 – Positioning of the mobile guide.

4. Position the pushers so that they hold the workpiece in the correct position along its entire length.

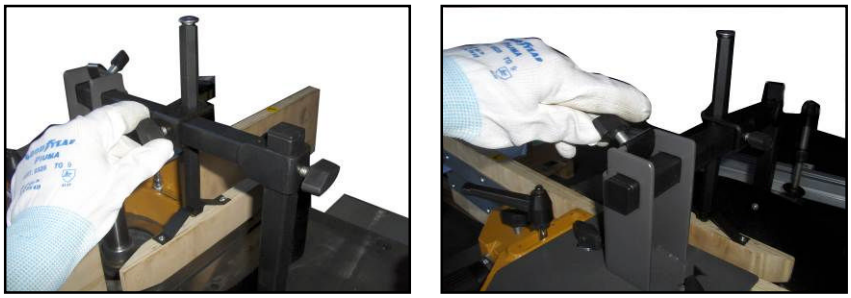

Figure 21 – Upper and front pusher adjusters.

The machine when perfectly adjusted should appear as shown in Figure 22

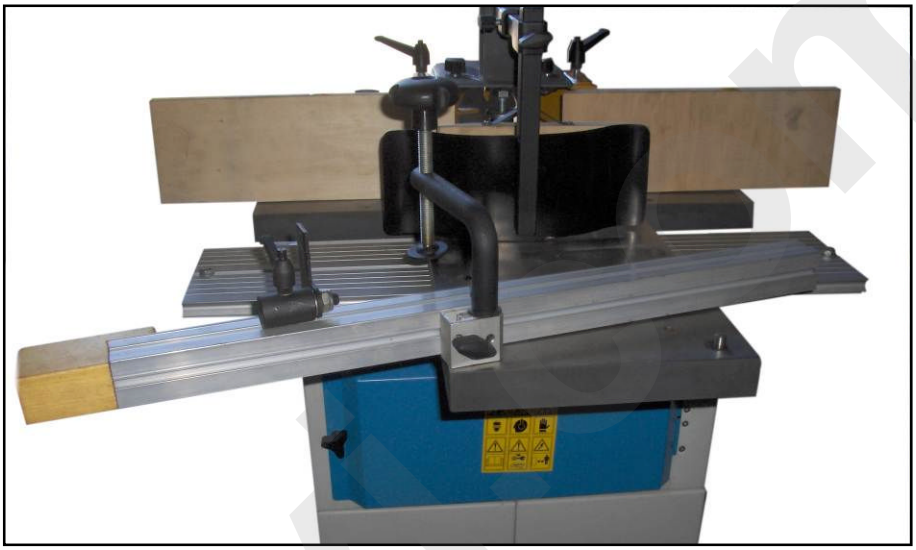

Figure 22 – Adjusted machine.

10.2.2 Adjusting the rotation speed

The Toupie Art. 0559 can be adjusted to perform machining with three different tool rotation speeds.

To change the speed it is necessary to act on the transmission belt.

Risk of injury

Before accessing the pulley compartment, always disconnect the power plug.

1. Disconnect the power plug of the machine.
2. Lock spindle rotation by means of the lever ref. d in figure 15.
3. Open the compartment and unlock the pulleys using the lever 8 in Figure 23.

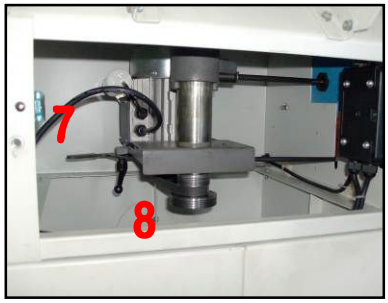

Figure 23 – Unlocking the pulleys.

4. Turn the handle 7 to reduce the tension of the belt, then position it according to the diagram below.

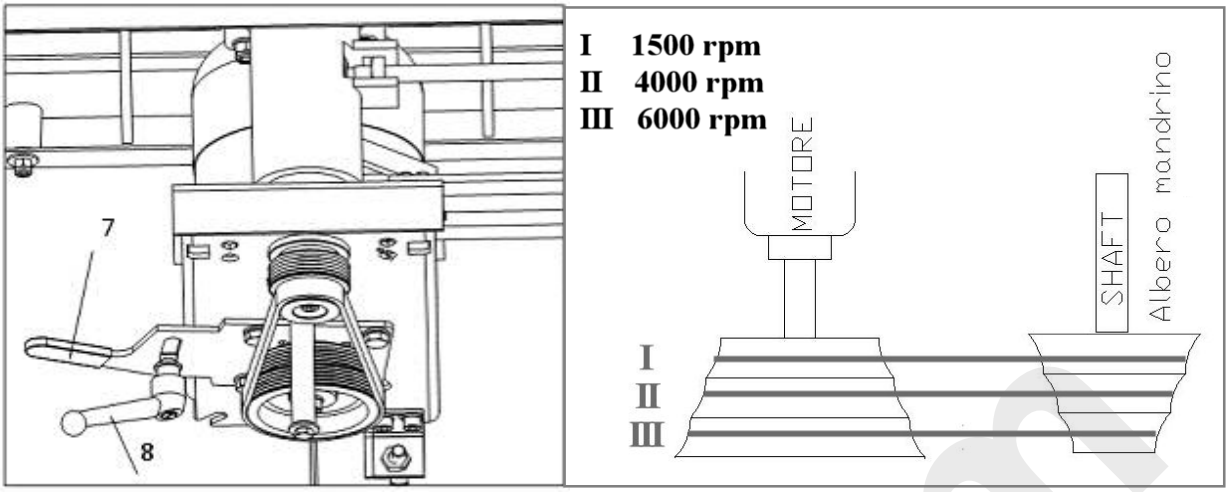

Figure 24 – Speed adjustment.

5. After choosing the most suitable position, rotate the handle n. 7 until the correct tensioning of the belt is achieved, and then lock the pulleys in position with the lever n. 8.

10.3 Sanding with sandpaper

Position the belt on the speed I (1500±100rpm), mount the optional "sanding roller" accessory onto the spindle shaft by following the instructions below.

1. Lock the rotation of the shaft by means of the lever ref. ***d*** in Figure 25.

Figure 25 – Rotation lock

2. Remove the guard by unscrewing the fastening levers.

Figure 26 - Guard fastening lever.

3. Position the hole reduction ring, which is most suitable for the tool to be installed and use the two shims of 10 and 10.5 mm to obtain the correct height of the roller.

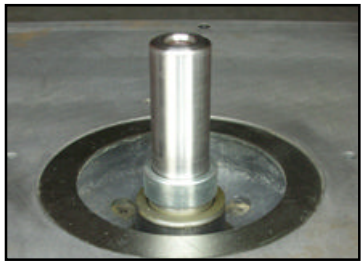

Figure 27 – Inserting the shims.

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4. Position the roller and tighten the M14 bolt that holds it in position.
5. Release the lever that holds the tool holder shaft in place.

Figure 28 – Fixing the roller.

Shaft lock

Always remember to unlock the tool holder shaft before starting the machine.

6. Unlock the vertical movement of the roller, rotating the lever, ref. ***f*** in Figure 26 to the left.
7. Adjust the height of the roller according to the machining operation, by means of the handwheel, ref. *e* in Figure 29. Turn it clockwise to raise the shaft, turn it anticlockwise to lower the shaft. For every full turn of the handwheel a vertical displacement of 2 mm is achieved.
8. After moving the roller to its uppermost position re-tighten the lever ***f***, to prevent accidental movement during processing.

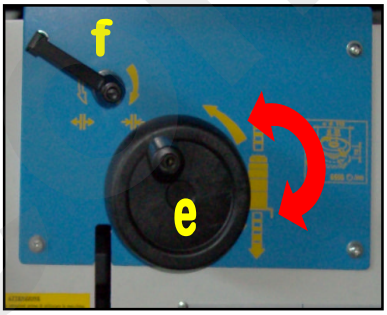

Figure 29 – Vertical adjustment

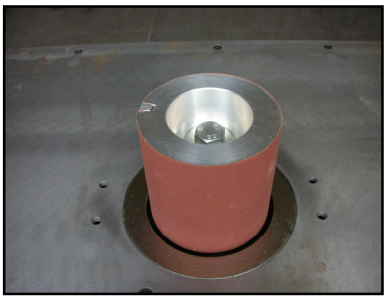

Figure 30 - Correct position of the roller.

9. Start rotation of the roller by using the green Start button.
10. After processing, turn off the machine by pressing the red stop button.

11 MAINTENANCE

Any maintenance, except for that specifically listed in this manual should be performed by qualified staff authorized by the manufacturer.

This manual does not elaborate information on disassembly and maintenance, as these operations should always be carried out exclusively by Technical Assistance staff.

11.1 Routine maintenance

AT THE END OF EACH MACHINING

Electric shock
Before maintenance or checks, turn off the machine and ALWAYS unplug the plug from the power outlet.

Regularly clean and take care of the machine to guarantee proper efficiency and a long working life.

Use a compressor to blow off shavings, chips and sawdust accumulating inside the machine and on work surfaces at the end of each machining operation

Working with compressed air
ALWAYS wear the protective goggles when using compressed air.

Check the state of the Toupie and CE plate and warning plate at the same time; If they are no longer legible ask for more.

Faults or defects
Disable the machine and affix a warning sign to forbid its use, until it works properly again and it is safe to use.

Check that the belt is in good condition and clean from grease and dust.

Cleaning the machine
DO NOT use detergents or any solvents; the plastic parts are easily damaged by chemical agents.

Periodically

Every 6 months of the machine's life, perform a thorough inspection of operation and wear.

Disconnect the plug from the mains and check the length and the efficiency of the electric motor brushes. If necessary, replace them with identical ones.

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11.2 Lubrication

The machine is lubricated by the manufacturer.

The electric motor does not require maintenance (sealed bearings).

The surfaces of the plates must always be sprayed with products that make them slippery to slide the work pieces better.

We recommend not using fat as it tends to blend in with the wood waste and makes the movements harder.

11.3 Adjusting the table

To adjust the tables a 1 metre steel ruler is required.

Unscrew the fastening screws of the table that is not adjusted. Adjust the upper or lower part of the table in order to get the right position lengthwise and crosswise in relation to the shaft.

Tighten securely after the adjustments have been made.

11.4 Replacing the sandpaper

1. Place the roller on a workbench. Remove the screws that secure the locking bracket of the paper and extract it upwards.

Figure 31 – Removing the used paper.

2. Keep the bracket and screws in a safe position.

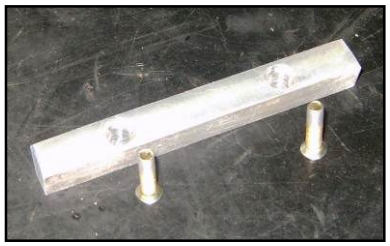

Figure 32 - Brackets and screws.

3. Cut a quantity of paper equal to the circumference of the roller plus a couple of centimetres for the fixing below to the bracket.

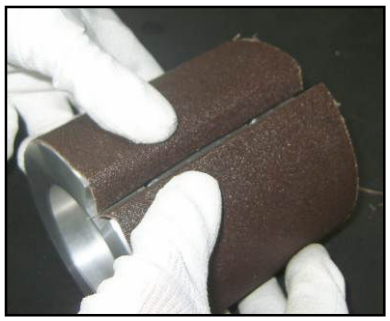

Figure 33 – Positioning the paper.

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4. Push the bracket onto the two flaps of paper folded inside the groove, and then tighten the screws.

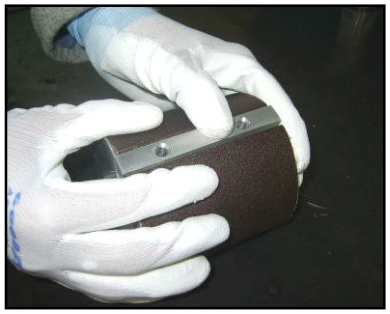

Figure 34 – Bracket positioning

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12 REPLACEMENT PARTS

Always clearly indicate:

- the symbol and the serial number of the machine;
- the code number of the parts;
- number of parts;
- exact address of your company.

Genuine Parts

The manufacturer disclaims any liability for damages of any kind caused by the use of non-original spare parts.

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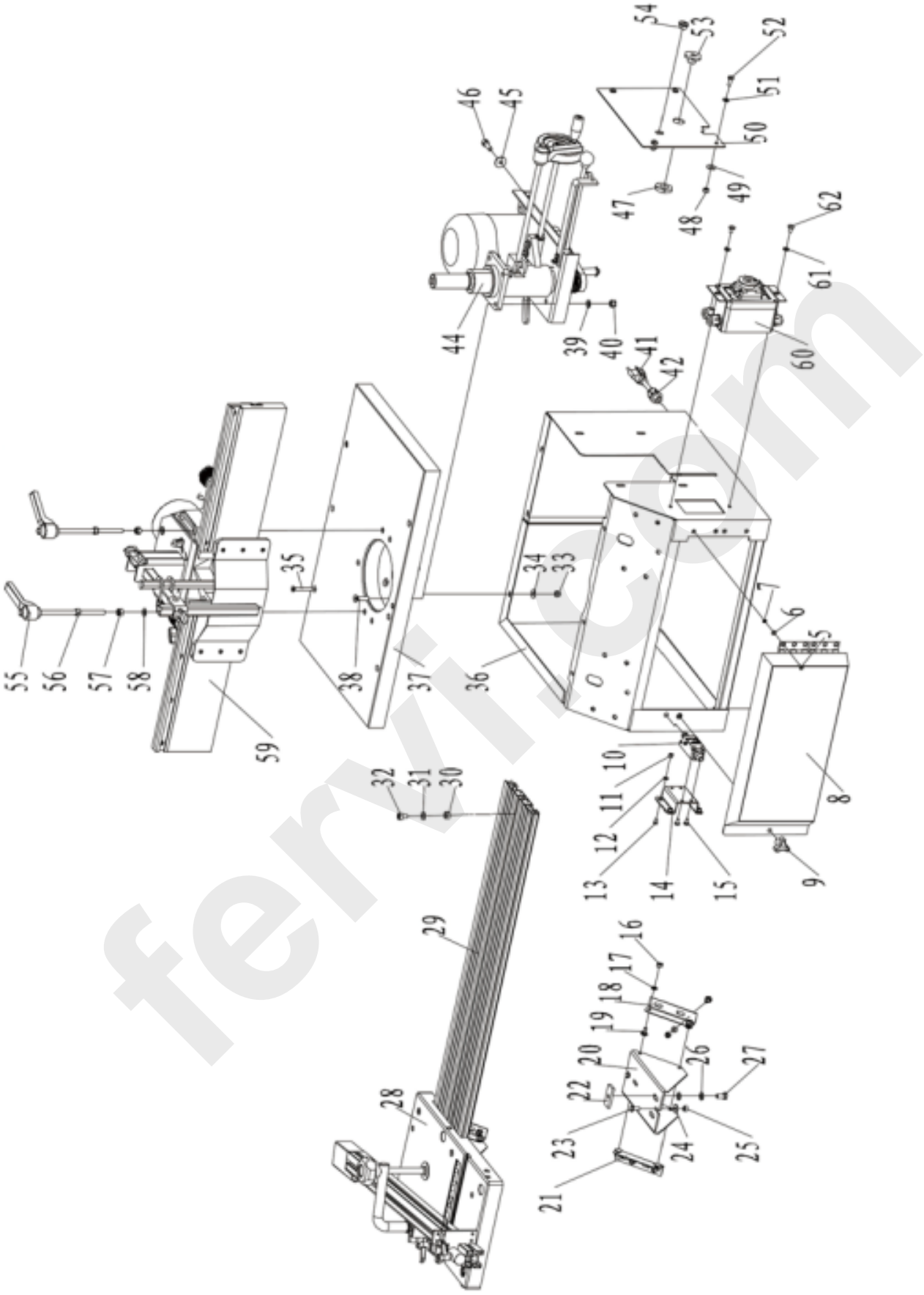
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Code	Description	Quantity	Code	Description	Quantity
0559/105	Screw M4x10	4	0559/134	Wide washer ϕ6	6
0559/106	Washer ϕ 4	4	0559/135	M6x45 screw	6
0559/107	M4 hex nut	4	0559/136	Upper frame	1
0559/108	Protective guard	1	0559/137	Table	1
0559/109	Door knob	1	0559/138	Screw M8x30	4
0559/110	Interlocking microswitch	1	0559/139	Washer ϕ4	4
0559/111	M6 hex nut	4	0559/140	Lock nut M8	4
0559/112	Washer ϕ5	4	0559/141	Plug	1
0559/113	Screw M5x10	4	0559/142	Plain bearing	1
0559/114	Switch support	1	0559/144	Sleeve	1
0559/115	Screw M5x10	4	0559/145	Wide washer ϕ8	1
0559/116	M6 hex nut	16	0559/146	Screw M8x25	1
0559/117	Washer ϕ6	16	0559/147	Hex nut	1
0559/118	Right support bracket	1	0559/148	M6 hex nut	4
0559/119	Screw M6x12	16	0559/149	Wide washer ϕ6	4
0559/120	Support plate	1	0559/150	Side control panel	1
0559/121	Left support bracket	1	0559/151	Washer ϕ6	4
0559/122	Positioning lock	1	0559/152	Screw M6x16	4
0559/123	M6x16 hex bolt	4	0559/153	Hex bushing	1
0559/124	Wide washer ϕ6	4	0559/154	Plain bearing	1
0559/125	Hex nut M8	4	0559/155	Block lever	2
0559/126	Washer ϕ8	4	0559/156	Hex nut M8	2
0559/127	M8x10 hex bolt	2	0559/157	Lock nut M8	2
0559/128	Sliding table	1	0559/158	Washer ϕ8	2
0559/129	Rail	1	0559/159	Discharge duct	1
0559/130	Hex nut M8	2	0559/160	Switch	1
0559/131	Washer ϕ8	2	0559/161	Washer ϕ6	2
0559/132	Screw M8x10	2	0559/162	Screw M6x10	2
0559/133	Lock nut M6	6			

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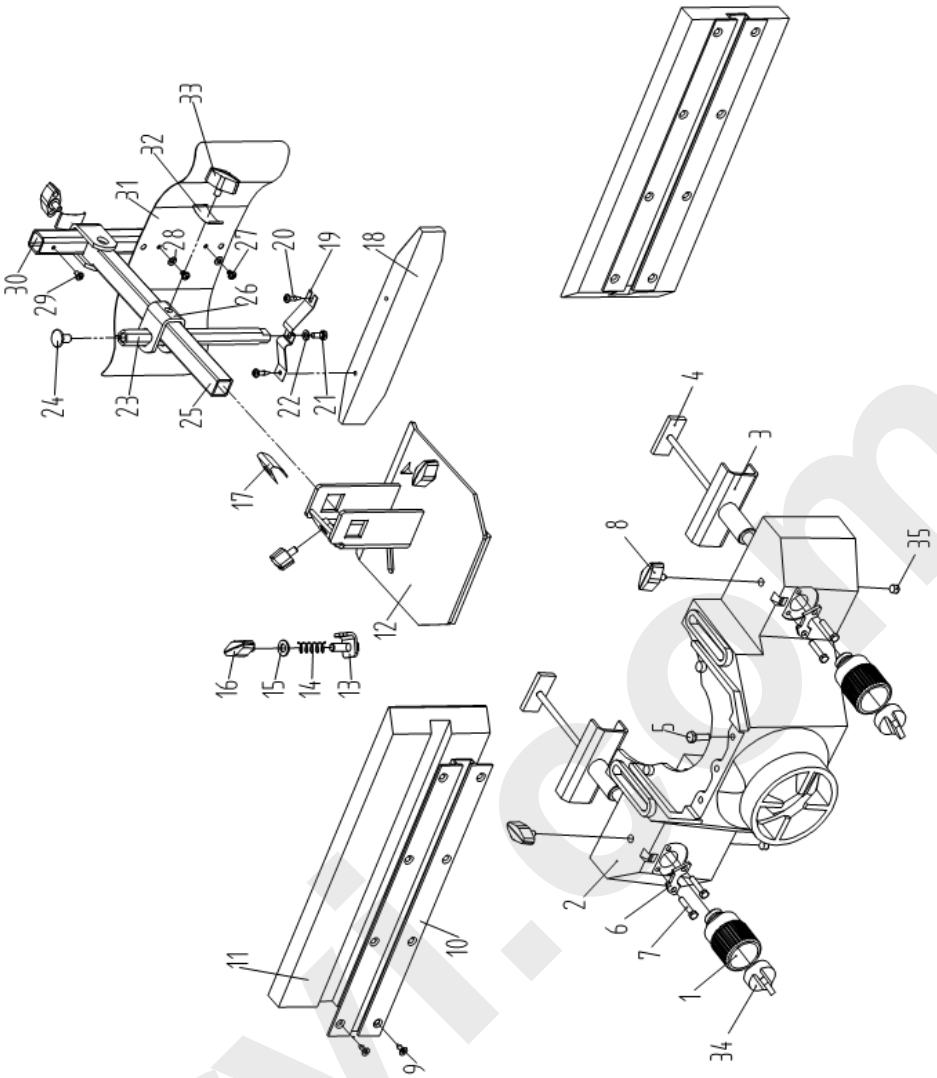

Code	Description	Quantity	Code	Description	Quantity
0559/201	Adjustment knob	2	0559/219	M-bar	1
0559/202	Discharge duct	1	0559/220	Screw M4x16	2
0559/203	Guide frame	2	0559/221	M5x12 hex bolt	1
0559/204	T bolts	2	0559/222	Washer ϕ5	1
0559/205	Screw M6x10	4	0559/223	Hex rod	1
0559/206	Metal plate	2	0559/224	M8x10 bolt	1
0559/207	M5x12 hex bolt	4	0559/225	Square rod	1
0559/208	Thumb screw	3	0559/226	U terminal	1
0559/209	Screw M4x12	16	0559/227	Screw M4x6	2
0559/210	T guide	2	0559/228	Washer ϕ4	2
0559/211	Wooden guide table	2	0559/229	Screw M4x6	1
0559/212	Hinged plate	1	0559/230	Tube	1
0559/213	Locking plate	2	0559/231	Guide clamp	1
0559/214	Spring	2	0559/232	Block bracket	2
0559/215	Washer ϕ8	2	0559/233	Thumb screw	2
0559/216	Thumb screw	2	0559/234	Locking knob	2

Code	Description	Quantity	Code	Description	Quantity
0559/217	Spiaggia	2	0559/235	Stop screw M8x10	2
0559/218	Table clamp	1			

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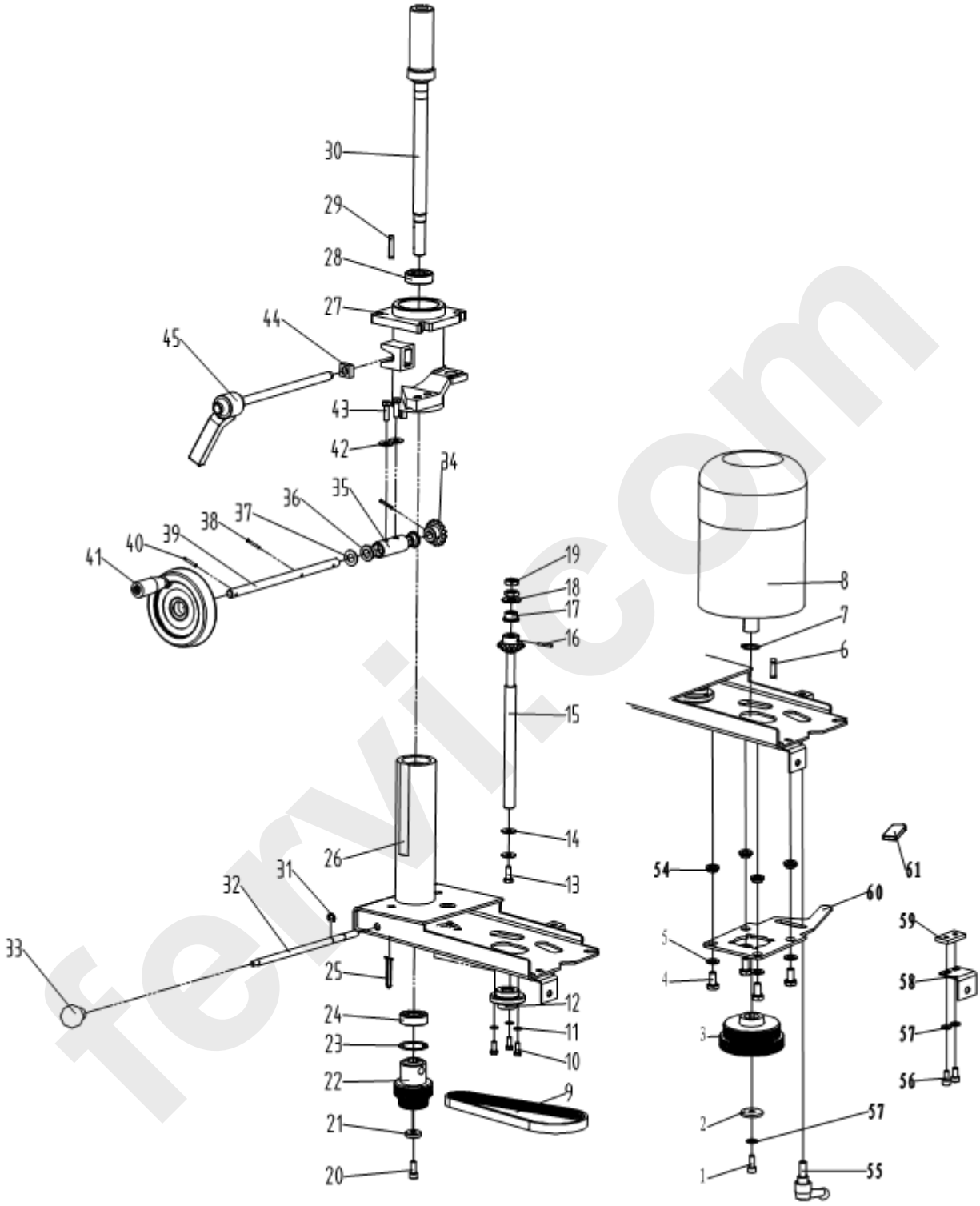
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57
56
3
2
57
1
55

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Code	Description	Quantity	Code	Description	Quantity
0559/301	Screw M6x16	1	0559/328	Bearing 6003	1
0559/302	Very wide washer ϕ8	1	0559/329	Key 5x30	1
0559/303	Drive pulley	1	0559/330	Shaft	1
0559/304	M8x16 hex bolt	4	0559/331	Seeger ϕ6	1
0559/305	Washer ϕ8	4	0559/332	Locking rod	1
0559/306	Key 6x25	1	0559/333	Knob	1
0559/307	C ring ϕ19	1	0559/334	Bevel gear	1
0559/308	Motor	1	0559/335	Bearing	1
0559/309	V-belt	1	0559/336	Plain bearing	2
0559/310	M5x12 hex bolt	3	0559/337	Washer ϕ10	1
0559/311	Washer ϕ5	3	0559/338	Elastic pin 3x20	1
0559/312	Threaded bushing	1	0559/339	Swivel shaft	1
0559/313	M6x16 hex bolt	1	0559/340	Elastic pin 3x25	1
0559/314	Wide washer ϕ6	2	0559/341	Hand wheel	1
0559/315	Threaded shaft	1	0559/342	Wide washer ϕ6	2
0559/316	Elastic pin 3x20	2	0559/343	M6x16 hex bolt	2
0559/317	Plain bearing	1	0559/344	Square nut M10	1
0559/318	Flat bearing	1	0559/345	Locking rod	1
0559/319	Thin hex nut M10	2	0559/354	Spacer	4
0559/320	Screw M6x16	1	0559/355	Block lever	1
0559/321	Washer	1	0559/356	Screw M6x12	2
0559/322	Neutral pulley	1	0559/357	Washer ϕ6	3
0559/323	C ring ϕ35	1	0559/358	L bracket	1
0559/324	Bearing 6202	1	0559/359	Bracket	1
0559/325	Elastic terminal	1	0559/360	Movable plate	1
0559/326	Gears guard	1	0559/361	Handle guard	1
0559/327	Directed cage	1			

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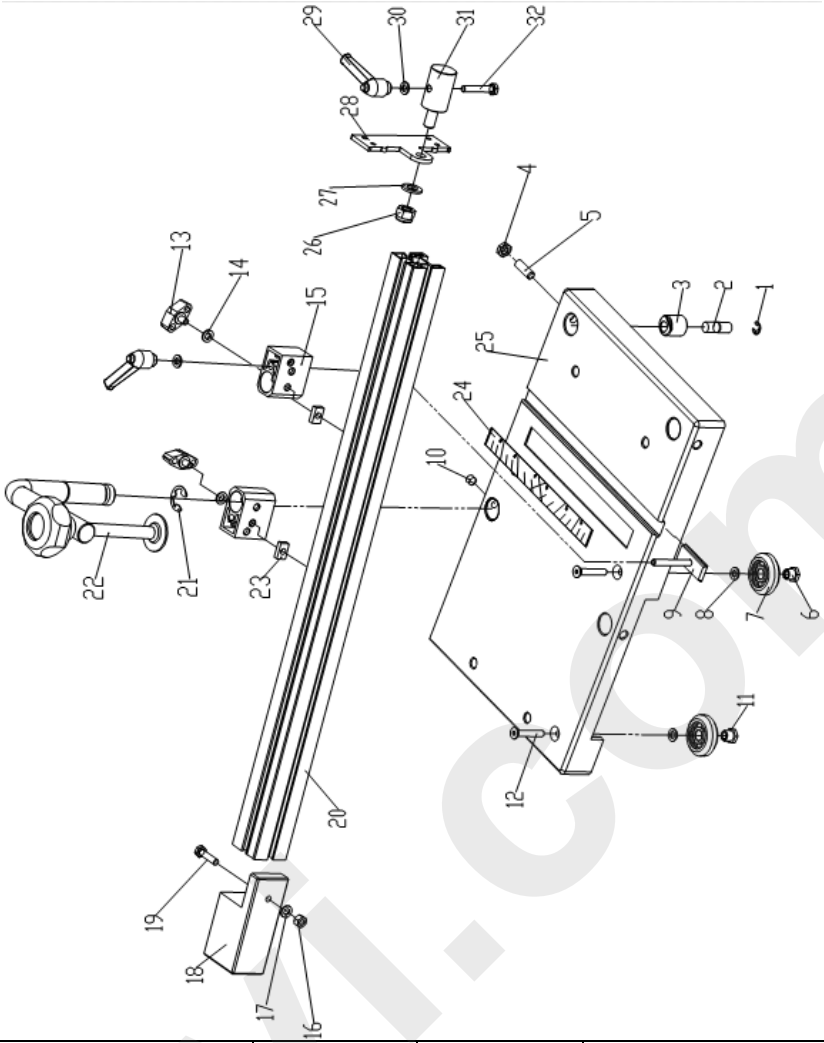
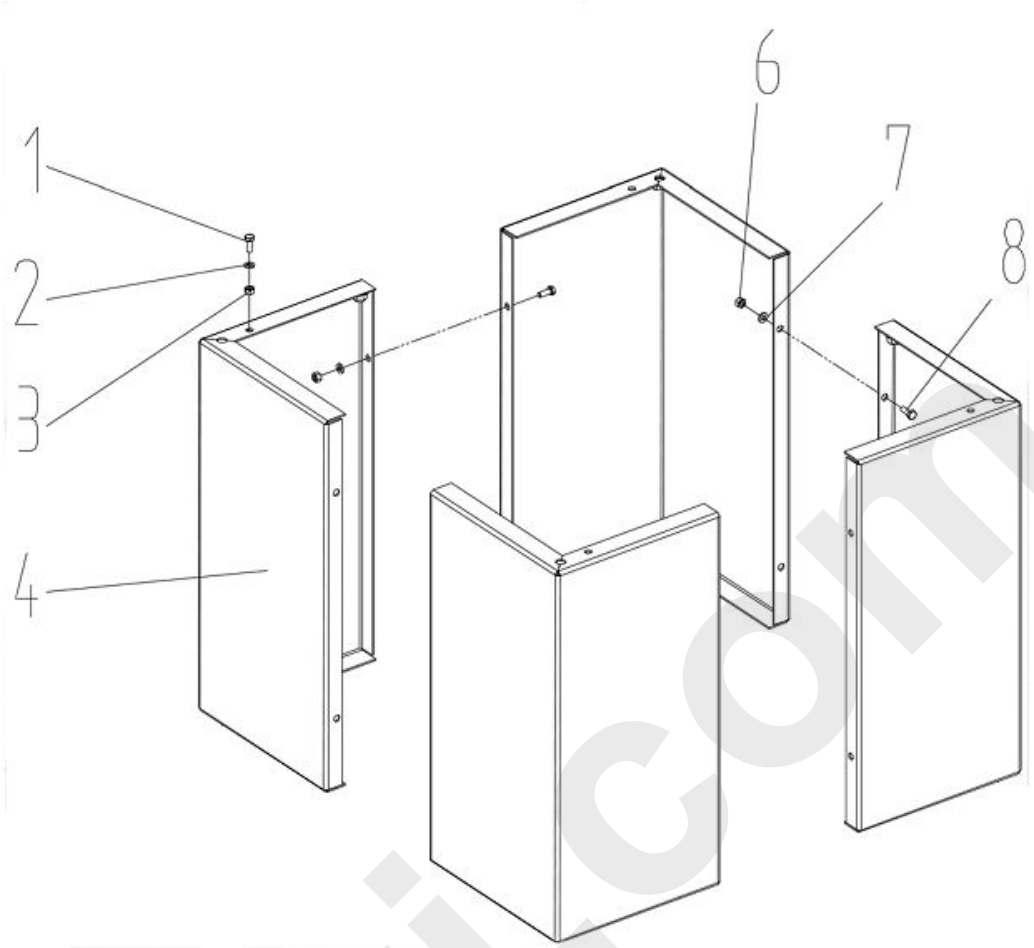


Code	Description	Quantity	Code	Description	Quantity
0559/401	Seeger	1	0559/417	Washer ϕ6	1
0559/402	Sliding shaft	1	0559/418	Wooden lock	1
0559/403	Eccentric bushing	1	0559/419	M6x25 hex bolt	1
0559/404	Thin hex nut M8	1	0559/420	Support guide	1
0559/405	Stop screw M8x25	1	0559/421	Seeger ϕ12	1
0559/406	Eccentric nut	2	0559/422	Piece stopping rod	1
0559/407	Carriage	4	0559/423	Square nut	2
0559/408	Washer ϕ6	4	0559/424	Graduated scale (corners)	1
0559/409	T bolts	1	0559/425	Sliding table	1
0559/410	Stop screw M8x10	1	0559/426	Lock nut M10	1
0559/411	Concentric nut	2	0559/427	Washer ϕ10	1
0559/412	Countersunk head screw M6x35	4	0559/428	Swivel plate	1
0559/413	Thumb screw	2	0559/429	Block lever	2
0559/414	Washer ϕ6	3	0559/430	Washer ϕ6	1
0559/415	Coupling lock	2	0559/431	Reference rod	1
0559/416	M6 hex nut	1	0559/432	M6x35 hex bolt	1



No.	Description	Quantity	No.	Description	Quantity
0559/501	M6x16 hex bolt	4			
0559/502	Washer ϕ6	4	0559/506	M6 hex nut	8
0559/503	M6 hex nut	4	0559/507	Washer ϕ6	8
0559/504	Base panel	4	0559/508	M6x16 hex bolt	8

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13 WAREHOUSE STORAGE

In the event that the machine should be stored and unused for some time, it must be kept in a closed environment free of moisture to avoid damage and/or deterioration, at a temperature between:

- –25°C and 55°C
- 50 % RH at 40 °C without condensation

14 DISPOSAL OF PARTS AND MATERIALS

If the machine is to be scrapped, its parts must be disposed of separately.

Respect the Environment!
Contact a specialist centre for the collection of metallic materials.

In this regard, divide the materials according to their nature, with the assistance of specialist companies authorized for waste disposal, in compliance with the requirements of the law.

Respect the environment!
Dispose of tailings (shavings, sawdust, etc.) in compliance with current legislation.

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15 TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
The machine will not start.	• Fuse blown • Breaking circuit tripped • Damaged cable • Switch in OFF position	• Replace the fuse. • Reset the breaking circuit • Replace the cable. • Turn the switch
Overloading occurs frequently	• Extension cord too thin • The piece is being pushed too fast • The tool is worn	• Replace the cable • Push the piece more slowly • Replace the tool
The tool does not reach the maximum speed	• Cable diameter insufficient • Extension cord too thin or too long • Inadequate power supply voltage	• Replace the cable • Replace the extension cord • Check the power supply voltage.
The cut is not satisfactory	• Worn tool • Dirty tool • The tool rotates in the wrong direction • The piece moves in the wrong direction	• Replace the tool • Clean the tool • Check the electrical connection • Power the machine on the other side
Excessive vibration	• The tool holder is damaged • The machine is placed on an uneven surface • The V-belt is damaged • The pulley is bent • The motor is not mounted correctly	• Replace the tool holder • Check the installation of the machine • Replace the belt • Replace the pulley • Check the mounting of the motor
Splinters are thrown up during roughing	• It is a typical feature of this process	
The milled area is not even	• Changes in pressure on the workpiece	• Secure the piece better and use a tool to push it
The piece kicks back	• The piece is fed in the wrong direction • The tool rotates in the wrong direction	• Move to the side of the machine on which the controls are located • Check the installation and connection of the machine

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The piece burns	• The machining is too deep • The workpiece is being pushed excessively	• Adjust the machine for lighter milling • Push the piece more slowly
The height of the cut is uneven	• Variations in the pressure of the clamp • Spindle not locked	• Adjust the upper pusher • Lock the vertical movement of the spindle with the relative lever
The cut is not smooth	• The number of revolutions is not correct • The piece is being pushed too fast • The processing is being performed against the grain • The cut is too deep	• Use a faster rotation • Push more slowly • Invert the direction of the piece if possible • Reduce the cutting depth
The spindle does not rise freely	• Dust or shavings in the lifting mechanism • Locking lever engaged	• Clean the machine • Unlock the lever

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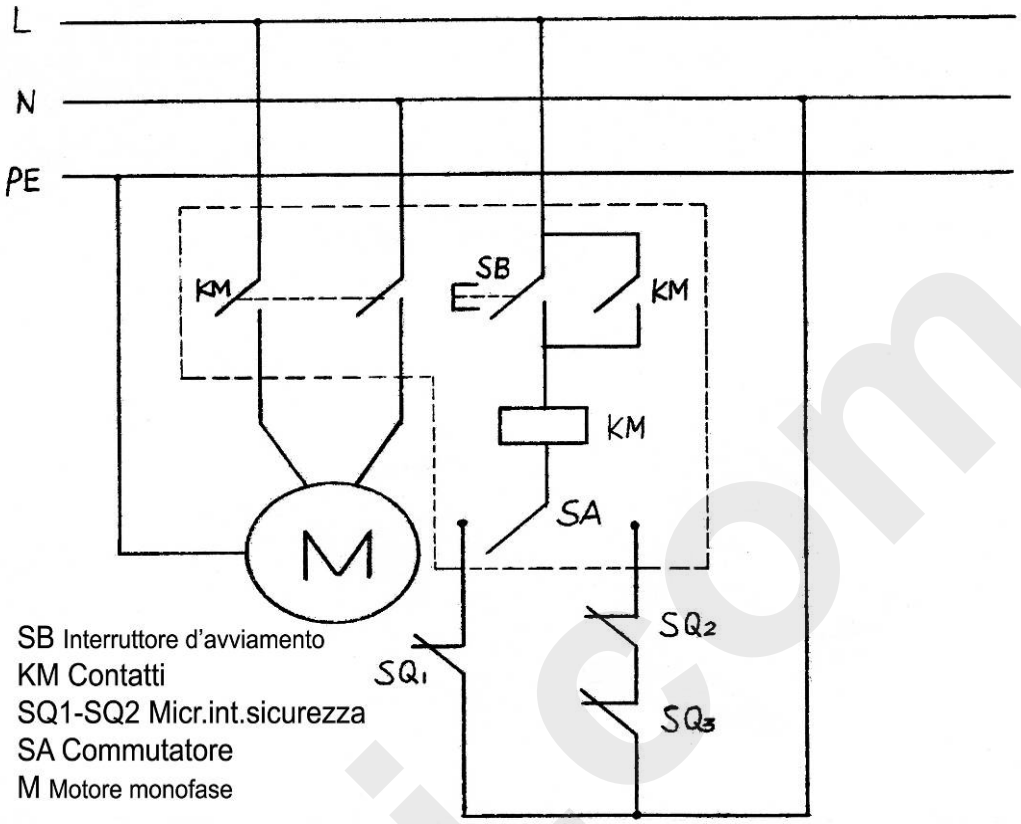
16 WIRING DIAGRAM



SB Interruttore d'avviamento
KM Contatti
SQ1-SQ2 Micr.int.sicurezza
SA Commutatore
M Motore monofase

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